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THE

HUNTERIAN ORATION,

DELIVERED IN THE THEATRE OF

THE ROYAL COLLEGE OF SURGEONS,

IN LONDON.

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ON

THE FOURTEENTH OF FEBRUARY, 1839.

BY

EDWARD STANLEY, F.R.S.

LATE PROFESSOR OF ANATOMY AND SURGERY TO THE COLLEGE;
AND SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

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March, 1839.

THE

HUNTERIAN ORATION.

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MANCHESTER.

Mr. President, and Gentlemen,

Our motive in assembling on this day is to render homage to the intellect of John Hunter, not simply because it was powerful, but on the higher consideration, that its powers were, with zeal and disinterestedness, exerted for the benefit of mankind; and with so successful a result, that the works he has left us do not merely reflect the character and condition of medical science for the period in which he lived, but in the amount of actual discovery and original thought, have created the foundation of this science in its theory and practice, for the present, and future time. Accordingly, the biography of Hunter becomes the history of the foundation of medicine as one art, based on the highest order of science, for there are but few departments of natural or physical knowledge which do not in some degree contribute to it. Yet, with respect to the biography of Hunter, as was rightly observed by

my immediate predecessor, curiosity has been abundantly satisfied; it can now be permitted only to reflect on the influence which his labours have had in advancing surgery to its present elevated position. If the present period be rightly entitled an epoch in medicine, it must be interesting to consider the circumstances which preceded it: as the most useful part of history is the knowledge of what passed before, and after every great event, so do the labours of John Hunter in the cause of medical science, from their remarkable extent and influence, continue to be, even on the twenty-fourth anniversary, the fit subject of our attention. It was a becoming spirit which suggested this commemoration, for as our brethren the physicians pay a just tribute of respect to the memory of Harvey, whose discovery of the circulation is the greatest single advance ever made in physiology, we in like manner dignify the memory of Hunter, whose discoveries and philosophic views of the actions of living bodies in health and disease, have accomplished more than the efforts of any other single mind for the advance of medicine and surgery.

An interest in the object of our meeting is acknowledged beyond the sphere of our profession; it brings to our theatre the honoured in other sciences, the dignitaries in Church and State; it places the College at the bar of a public tribunal where evidence is to be offered of the right appropriation of the scientific trea-

sures within our museum, entrusted to us by Parliamentary enactment; where, moreover, we have the opportunity of shewing that the advance of surgery is commensurate with the intellectual activity characteristic of our age. In the enlargement of our building, now comprising a museum adequate to the effective display of its contents, a library more complete in the literature of medicine and its collateral sciences than any other in Britain, also in the publication now actively advancing, of the explanatory and illustrated catalogues of the contents of the museum, with, besides, an extended series of Lectures annually delivered on comparative Anatomy and Physiology; in all these arrangements we have earnestly endeavoured to meet the just expectations of the profession, and thus to respond to the enquiry, whether we are rightly fulfilling the trust consigned to us for the advance of medicine and surgery, and thereby for the benefit of the community.

History, in respect to medicine, has fulfilled its purposes—it satisfies the curiosity which men naturally feel with reference to the occupation of their lives, to know the events of past time, and who were the principal persons engaged in them; it gratifies the pleasure which men experience in comparing the operations of their own minds with the reflections of men who were, in distant ages, engaged in the same subjects of research as themselves. Nor are the records of medi-

cine, as might be supposed, the dry annals of olden times, the naked chronicle of events and dates; they are full of instruction and amusement, shedding an agreeable light on the subjects of our present occupation in making us, as it were, to live with some of the greatest of intellects, and the best of men of former ages. The works of Portal* and of Sprengel† are complete in their object of recording the successive efforts of centuries in rearing the noble edifice of medicine; and so elaborately has this been done, that upon every stone in the building has been inscribed the name of the individual by whom it was placed there. —With respect then to the history of Anatomy and Surgery, to mark, and comment upon some of the epochs of their advance, is the simple object to which I shall confine myself.

The art of Surgery, so closely interwoven with the necessities of a people, once established, would, we might suppose, be permanent. But it has been otherwise with the ancient Hindoos; for, among this remarkable people, as we learn from the recent translations of their original classic language, surgery was in ages past, practised in its highest departments, yet it has subsequently disappeared, at a period, and from the operation of circumstances, which the historian has not

* Histoire de l'Anatomie et de la Chirurgie, vii. tom. 12mo.

† Histoire de la Médécine depuis son origine jusqu'au dix-neuvième siècle. Trad. par A. J. L. Jourdan, ix. tom. 8vo.

been able to explain. And it is worthy of remark, that in the first efforts of an intellectual people to establish a system of surgery, they at once achieved its boldest results; for the ancient Hindoos performed lithotomy, and extracted the fœtus from the uterus; and in their works are described one hundred and twenty-seven surgical instruments, but with so correct an estimate of their capabilities, that they declare "the first, best, and most important of all implements is the hand." In all that concerns the spirit with which the study of medicine should be conducted, and the moral attributes of those who practise it, the Hindoo records display a refinement of feeling and judgment not to be surpassed by the most highly finished portrait of the medical character of the present day. "Having completed," states the Hindoo, "the indispensable course of study, practice is then to be acquired; that he, who is acquainted with the science of medicine only from studying the books which treat of it, and is not well grounded in the practice of it also, is bewildered when called upon to attend the sick; that he, who engages in practice, presumptuously disregarding written science, is held in no estimation; that both these descriptions of persons are incompetent, possessed of only one branch of the necessary qualifications, like birds with but one wing." The good physician, they state, to be "a person of strict veracity, of the greatest sobriety and decorum, a man of sense and benevolence, his heart

charitable and temper calm, and his constant study how to do good."*

If, with an intellectual people, surgery once established, could afterwards be lost, surprise may not be felt at one feature in our historical records, that anatomy and surgery have not been uniformly progressive with civilization. To a remarkable extent they have had their periods of rise and fall, flourishing in one age, decaying in the next. "The edifice of medical science," says a learned historian, "begun at one period, languishing in the next, of insecure foundation in every age of past time, and perhaps worse defended than all other human arrangements against the caprice of man, and instability of fortune."

Various and opposite circumstances have, as might

* After the full enumeration of the qualities of a good physician, the Hindoo sages add, "should death come upon us under the care of this earthly saint, it can only be considered as inevitable fate, and not the consequence of presumptuous ignorance, and that one of the most happy indications of returning health is, when the sick person forgets not his God amongst his sufferings, but daily prostrates himself in prayer with humility and resignation."

The principal sources of information, relative to the medicine of the ancient Hindoos, are—

An Essay on the Antiquity of Hindoo Medicine. By J. F. Royle, M.D.

Tracts on India. By Dr. Heyne.

Materia Indica. By Whitelaw Ainslie, M.D.

Oriental Magazine, 1823; containing translations from the Sanscrit Medical Works, by Professor Wilson, of the University of Oxford.

be expected, given rise to the epochs of advance in anatomy and surgery. At one period they have been connected with the prosperity of a nation; and at another, with its political and religious dissensions. So it has been with other departments of knowledge; thus the origin of our Royal Society has been traced to the retreat "of a few friends to Truth, Repose, and Nature," who betook themselves to the investigations of natural science as the means of relief from the troubles of the times, by which they were grievously oppressed. And at another period, the excitement of war, when its object was the preservation of freedom, by calling forth the energies of mind, has been favourable to the cultivation of natural knowledge, of the arts and sciences generally; thus, in the Italian States, the first half of the sixteenth century was a period alike remarkable for the fury of its contests, as for the number of its illustrious men in science and literature, and it was the period most fruitful of discoveries in human anatomy; when its most rapid strides were made, from the combined efforts of the many distinguished men then flourishing, some of whom were foreigners, whom the Italian princes had invited to their country. At the head of this illustrious band was Andrew Vesalius; "that great genius," says the learned Sprengel, "whose name can never be pronounced by the admirer of anatomical science without a feeling of deep veneration." Vesalius commenced

the foundation of his fame in the determination to study Nature: breaking through the prejudices by which men were at that time enchained, he recommended to his cotemporaries that they should represent Nature only as they might find her. Scarcely twenty-five years of age, he published his great work on the structure of Man; of surpassing excellence by the accuracy of its descriptions, and by the admirable interpretation of the uses of the parts he had described; and all this, moreover, accomplished at a period when, to dissect a human body was nothing less than sacrilege. Portal, in a rapturous strain of devotion to his science, exclaims, "Let the Astronomers vaunt their Copernicus; the Natural Philosophers their Galileo and Torricelli; the Mathematicians their Pascal; the Geographers their Columbus; I shall place Vesalius above all these, for our first study is Man, and this was the object which Vesalius so nobly attained." Well may the Italians cherish the name of Vesalius as we do that of Hunter. Even to the present day, in their discourses, the labours of Vesalius continue to be the theme of unbounded praise.

Italy is the country to be held in our grateful recollection. There, was anatomy restored, almost created. By the labors of a succession of eminent men, Italy became the school of Europe. The Italian students carrying their knowledge, and their enthusiasm for the science, into France, Germany, Holland and England,

became the Founders of Human Anatomy in the several countries of Europe—and we must not forget it was in the Italian Schools, under one of their celebrated professors, Fabricius,—our Harvey,—justly styled the Father of English Anatomy, received the chief part of his education.

If we love the science of anatomy for the elevating views it presents; if we are grateful to it as affording the means of successfully cultivating the difficult art of surgery, how deeply must we venerate the Great Men of former ages who did, with enthusiasm, study anatomy in spite of every obstacle that could be thrown in their way by the Laws, Customs, and Prejudices of the people of every country; for true it is, as asserted by Vicq d'Azyr, that anatomy, which of all the sciences, has had its good to mankind most loudly proclaimed, has had the least effort of any science made for its advance by the public Voice and Action. It is a matter of history not to be doubted, that Galen travelled from Rome to Alexandria to study a human skeleton—that he was compelled to rely on, what he denominated Fortuitous Anatomy "Ανατομὴ κατα περιπτωσιη," the examination of bones he might by chance find in a tomb, the contemplation of a body washed out of a sepulchre built on the brink of a stream, with its flesh, he says, rotten, but with the bones still adhering together. Yet from such scanty and precarious sources of study did Galen draw his descriptions of the human

skeleton of surpassing excellence.—So little encouragement did the cultivation of anatomy receive through many ages that, not until the sixteenth century, in other countries than Italy, was human dissection permitted, and then so reluctantly that, to a very late period, it continued to be a practice entered upon at the risk of the personal safety of the individual. At Paris in the year 1727, did Haller meet with the interruption to his anatomical studies of which he so indignantly complains in his Bibliotheca Anatomica.* "Sed etiam hanc discendi opportunitatem, maligna curiositas operarii turbavit, qui effoso pariete, quid agerem speculatus, meum nomen ad viros publicæ securitati præfectos detulit. Ut graves pœnas, ipsas forte triremes, effugerem, latendum mihi fuit, et deserenda cadavera."—Even in our enlightened country, the science which had the best right to expect the aspirations and the efforts of the wise and the good, has received but the one recently granted public protection and encouragement;† for it is certain that the legal enactment, which consigned to the anatomist the body of the murderer, had not for its object the advance of science, but the addi-

* Tom. xi. page 196.

† An Act for regulating Schools of Anatomy, 1832.

To Henry Warburton, Esq., M. P., F.R.S., the Public are mainly indebted for this important measure. The extent of the obligation is known only to those who witnessed his Exertions in the cause of Science and of Humanity.

tion of infamy to the sentence,* and in an early age, to such an extent, it would appear, has this principle been carried, that the criminal has been consigned to the custody and use of the anatomist, even without the preliminary measure of execution. Of this, we are informed by Fallopius incidentally, when discussing the operation of poisons, and without comment on the extraordinary nature of the transaction. "Fever," he observes, "hath a mighty power of resisting a cold poison, a fact of which we had experience at Pisa, in the case of a man destined for dissection. The Prince had ordered that we should have a man delivered to us to be killed in our own way, (quem nostro modo interficimus), and anatomized. To this man, we gave two drams of opium, but he labouring under a quartan ague, and the fit just coming on, the opium was hindered of its effect. He then boastfully desired that we should give him as much more of the medicine, and in the event of its not proving fatal, prayed that we would intercede for him with the Prince. We gave him two drams more; but it was in the interval between the fits, and he died."†

* "The only boons yet offered to the science of physiology are the grants of the bodies of murderers and felons to the Colleges of Surgery and Medicine, originating rather in the notion of exemplary punishment than in that of forwarding this most useful study."—Laws relating to the Medical Profession. By J. W. Willcock, Esquire, 1830, Chap. X.

† Fallopii Opera quæ adhuc extant omnia, fol. Francof. 1584.—Tractatus de tumoribus præter naturam. Cap. xiv. page 712.

Our historical records do not indicate that the discovery of the Circulation was immediately succeeded by striking improvements in the practical departments of medicine and surgery. More of the groundwork was yet wanting in the knowledge and comprehensive views of the Animal Economy, from which the advances of medicine in modern times have emanated. The researches of Harvey in two great subjects of Physiology, the Circulation of the Blood, and Generation, had no decided effect, it would appear on the sagacious mind of Sydenham, who flourished in the immediately succeeding period, for we do not find that in his writings, he enforced the study of anatomy and physiology, nor does he specify this study when propounding the ways of improving physic. Probably, however, it was for the reason that Sydenham, strongly impressed with the error of his time in interweaving philosophical speculations with the histories of disease, thought, that he could render the best service to medicine by proceeding upon the model of the Father of Physic, the never enough extolled Hippocrates, as he styles him, to collect and record accurate histories of disease, free from preconceived opinions, inculcating that, "although there are varieties in the symptoms of disease, yet Nature acts in so orderly a manner that the same disease appears with the like symptoms in different persons, so that the symptoms observed in Socrates in his illness, may be applied to another person afflicted with the

same disease, as the general marks of plants run through the same plants of every kind;" and in describing disease, continues Sydenham, "it is, as in the description of a violet, as to its colour and other properties, that this description will agree, in most particulars, with all the violets in the universe."* It is worthy of remark that Sydenham, in framing his method of learning how to recognize and treat disease, was counselled by his friend Locke, hence the doubts which have been expressed whether it is to Sydenham, or to Locke, physicians are chiefly indebted for the method which still continues to be their model in study and practice.†

Although not immediately conducive to the advance of surgery, the discovery of the circulation had its good effect, as the historians of the time have recorded, in correcting the overweening confidence in the opinions of the Ancients against the evidence of observation and experiment. "Wherefore," asks the first public opponent of Harvey's views, "is the use of the circulation? To what can the new doctrine lead? Certainly to no good in medicine, for the ancients were perfect in their knowledge of the cure of disease, and this without the knowledge of the circulation." Such was the philosophy of the time, overcome, not so much by the conviction of the truth of the new doctrine, as by the admirable manner in which the researches to esta-

* Preface to the Works of Sydenham.

† The Life of John Locke, by Lord King, Vol. I. page 16.

blish it were conducted, and which has gained for Harvey so exalted a reputation. Let it be remembered that Harvey occupied nine years in the examination of the proofs of the circulation before he ventured to publish it. He wanted not the caution enforced in the Baconian maxim.—" Manete paulisper, ut expediamus celerius."*

The eighteenth century is a period to be marked in the history of anatomy, from its relation to the present state of the science, and as it brings into our view an assemblage of more distinguished men than were, at any other period, engaged in its cultivation. In the year 1725 Haller studied at Leyden, where Boerhaave, in the height of his fame, was delivering his prælections. " Incredibili cum voluptate prælectiones audivi, " writes Haller, in his Bibliotheca.† Albinus then delivered in the same University, the lectures on anatomy and surgery. Also at Amsterdam was Ruysch, advanced in years, yet still ardent in the cultivation of anatomy, and at the same period was Winslow in Paris, and Cheselden in London. — Men so justly eminent, all co-operating in the advance of anatomy, must, by their commanding influence, have cleared the way for the exercise of the energies of William Hunter, who in the immediately succeeding period, founded the London school, wherein were first delivered, complete

* De expediendis negotiis.

† Bibliotheca Anatomica, Tom ii. page 195.

courses of lectures on anatomy and physiology with their requisite illustrations. I read in the Eloge upon Scarpa, pronounced before the Academy of Medicine in Paris, that in the year 1781, he visited London, became the pupil of Pott, of the two Hunters, of Cruikshank, and Sheldon, accompanied them in their visits, attended their lectures on anatomy and surgery, and studied with the deepest interest, the collection of the youngest of the Hunters, composed of all parts of the animal organization. Adding the name of Hewson to those just enumerated, we have before us the distinguished men of the school of William Hunter, who united with him in giving the first impulse to the study of Physiological, Pathological, and Practical Anatomy in England, which, by its continued zealous prosecution, has enabled the surgeons of our country to contribute their full share to the perfection which the science has attained in the last half century.

An epoch in the history of surgery was the establishment of the French Academy in the reign of Louis XV. Even at this distant period, interest must, in our minds, be attached to the circumstances which led to the formation of an institution so beneficial to surgery; for we cannot but admire the liberal and manly spirit, the sound principles which animated the celebrated men who united their efforts in its foundation. We find these men, in the records relating to

this subject, first disputing with the physicians the monopoly they had assumed of practising anatomy, by the decree that no person should be so employed but by permission, and in the presence of one of their faculty. But the surgeons persevered; they acquired anatomical knowledge, and desired to impart it to their pupils; and in imitation, they said, of the Romans, who, by the magnificence of their buildings, shed a lustre upon, and perpetuated the memory of, their noble deeds, so did they strive to advance the glory and the utility of their art, by the erection of an amphitheatre for instruction, an edifice, they added, that should be declaratory of the splendour of surgery in their time. Their efforts did not here cease. Our art, they urged, is the fruit of experience, an experience consisting in the accumulation and comparison of facts. To prevent these facts being scattered and lost, to bring them into a position advantageous for examination and comparison, to preserve them for the use of posterity, were the considerations that determined the formation of the Academy, whose memoirs still continue to be one of our most valuable records of surgical experience. The name of De La Peyronie deserves especial mention, as the individual who took the prominent part in these arrangements, and who devoted the wealth he had acquired through the practice of surgery to the endowment of theatres and professorships for instruction in its principles.

And here, I venture the expression of an opinion, that at the present period, the adoption among ourselves, of the system of the French Academy, would much conduce to the benefit of surgery. Not that we need the incitement to the study of science which, it may be imagined, was intended for the ancient philosophers, by Cimon, who decorated with fountains and verdant groves, the first building in Athens appropriated to the purposes of science, under the name of Academia. For ourselves, it is only to be desired to establish a spirit of union for the object we are striving individually to attain, and, as flowing from this, the ready means of generalizing and comparing the facts we are constantly observing. We want not for the advance of surgery, the multiplication of facts, so much as the right appreciation of the abundance of them already accumulated in our literary storehouses, the published works of our day. Alike to this, has been, I presume, the feeling with which some of our medical philosophers have introduced into medicine, a new instrument, wherewith to work, in enucleating from the mass of details, general results, the calculation by numbers simply, as a means of working out the problems of medicine with a precision and certainty corresponding with the predictions of astronomy, the axioms of arithmetic and geometry, and so to institute a calculus of probabilities for medicine. But the phenomena with which we have to deal, fugitive in their nature, always

complex, and perpetually varying in the order of their occurrence must, with difficulty, be submitted to the calculation of number, which is, with manifest advantage, applied to other branches of science. I hear, for instance, my friends the physicians affirm, that the prevailing fevers of the present year are not the fevers of the last year, in the character of their symptoms, and by consequence, in the required treatment; and accordingly that a numerical estimate of treatment, and its results, through the last year, would not be a safe guide to practice in the present. And true it is, as observed of Sydenham, that if figures had been his rule and method, he would not have bequeathed to posterity his admirable descriptions of the varied characters of epidemic disease, upon which his reputation so deservedly rests.

Forty-five years have elapsed since the death of Hunter, and in the certainty of truth, it may be affirmed, that in no corresponding period, have the actual discoveries and improvements in the science and art of surgery been so numerous, and of so striking a character. For our country, in fairness, a large portion of these may be claimed. With the invention of a practical science, portions of it may be at once brought to perfection; others must wait for the establishment of comprehensive views and general principles which can be but slowly matured; and in reference to medicine, it has been the great result of Mr. Hunter's

researches into the animal organization, to form principles, bearing, not simply on the treatment of a single disease, or a class of diseases, but upon the whole series of effects of injury and disease, for the relief of which, in the character of physician, or surgeon, our knowledge and skill are required.

Of the improvements in surgery through the last half century, the first in order of occurrence, the most important to the preservation of human life, has been the successful treatment of aneurism, to be reckoned the fairest of the fruits of Hunter's genius. It has been a question, who may have been the first to encircle, by ligature, an artery distant from the seat of an aneurism. But it is certain that the merit of originating those reflections on which the principle of the measure is founded, belongs to Mr. Hunter, that this profound observer of the processes of Nature, in the view of gathering from them a knowledge of the processes of disease, and of the means whereby it might be arrested, did, by this course of investigation, bring his mind to a confidence in the power of the blood vessels of a limb to maintain the circulation after the obliteration of their trunk, and in the power of the absorbent vessels to remove the aneurism after the current of blood has ceased to flow through it.

Almost to the present time were living the two individuals, who were the subjects of the first and the third operations for aneurism in the lower part of the

thigh, performed by Mr. Hunter. To each of these individuals, above forty years of life, with integrity of limb, was given by this splendid achievement of surgery. A becoming tribute to the fame of the military hero is the erection of a column covered by the inscriptions of his victories. A splendid monument it would be to the genius of Hunter, whereon would be inscribed a record of the amount of human life preserved by this single result of his labours. Nor can we forget the disinterested spirit, and the simplicity which marked his announcement of the new operation. Too much engaged, says his biographer, to take this task upon himself, he requested of Sir Everard Home to do it, who accordingly published his well-known paper on the subject. When, moreover, the consequences of this discovery of the principle of treating aneurism are contemplated in their relation to the knowledge subsequently obtained of Nature's processes in every variety of circumstance concurring to the stoppage of bleeding from a wounded artery, we may affirm of what has been done for the single subject of the diseases and wounds of blood vessels, by Hunter and his successors, that, never have the ministrations of science and art been more successfully directed to the relief of human suffering.

The excellence of the practice of Perceval Pott consisted, it is well known, in the substitution of refined and skilful manipulations for the coarse and less dex-

terous proceedings adopted in the surgery of that day. Acuteness of observation and enthusiasm for surgery were in Mr. Pott conspicuously marked, yet to give full effect to these excellences, there wanted the influence on the treatment of disease afterwards derived from the principles of inflammation set forth by Mr. Hunter. To this cause may we ascribe the improvement of surgery in respect to another important subject, the management of injuries of the head from external violence. Mr. Pott's works show the frequency with which the serious measure of perforating the skull was in his time practised from indications which, in the present day, we do not acknowledge, and accordingly with us, this operation is rare compared with the records of its performance half a century ago. As, by an improved knowledge of anatomy, the character of our operations for hernia has been changed, so has our better comprehension of the principles of inflammation improved our treatment before, and after the operation; and thus should I speak of almost every other subject in surgical practice, in shewing, that by increase of anatomical knowledge, by a better acquaintance with the changes of structure which the parts of the body undergo from disease, and by a sounder view of the principles of treatment, the triumph of surgery in our age has been fairly gained,—the diminution in the number of operations; "the reflexion on the healing art," as they are designated by Mr. Hunter, "for

operations," he adds, "are like the acts of the armed savage, who attempts to get that by force which a civilized man would get by stratagem." Through all this, the great practical lesson to be inculcated is, that it has been through the science of surgery every improvement of note in its practice has been effected. We may remark how much more Pott would have done for the advance of surgery, had he lived immediately after, instead of being cotemporary with Hunter. Mr. Abernethy, possessed of the highest order of intellect, did, with the force of his eloquence, impress the truths which Hunter had expounded. He conferred on us an inestimable good, as he showed how, for the establishment of sound surgery, the philosophic views of Hunter are to guide us in the treatment of every derangement of function in an animal body. What can be accomplished by surgery without the science, the possession of which we can now boast, may be learnt by the perusal of the works of Wiseman, Sergeant-surgeon to Charles II. than whom, no man was more learned in his time, no man more acute in observing, and faithful in recording what he did, whether successful or otherwise. If we turn to his account of the treatment of the diseases of the joints, we find him employing the same remedies of which the modern surgeon avails himself, but wanting all the effect we give to these remedies, by the discrimination of the varieties and the conditions of disease, which modern observation

has so well supplied. If we turn moreover to the treatises by Wiseman on hernia and dislocations; most instructive lessons will they be found to contain, as they shew that every thing in relation to these important subjects, which we regard of value in practice, has been created by that union of science to surgery, to which the labours of Hunter have so especially tended. Upon one achievement of modern surgery, I must be permitted to dwell,—the art of crushing the stone in the urinary bladder to fragments, to a powder that shall imperceptibly escape through the natural passage for the urine. With intense interest must we now revert to the almost incredulous feeling, with which, the first announcement of such an operation was received but three-and-twenty years ago, as having been performed upon his own person, by a Colonel in our Indian service, who passed to the bladder, through a tube, a whalebone, at the end of which was a steel watch-spring, wherewith he contrived to act upon the stone.* The narrator of this proceeding observes that, no surgeon can effect this for another person, that to place the stone and the saw in their right position can only be done by the patient for himself. But the surgeon of our day, aided by mechanical skill of the highest order, does accomplish

* Some Remarks on the Arts of India. By H. Scott, M.D. The Journal of Science and the Arts. Edited at the Royal Institution of Great Britain, vol. i., 1816.

this for his patient with precision and safety. Let the philanthropist interested in whatever tends to the relief of human affliction, turn to the pages of our medical annals,* and there peruse the narrative by an intelligent and firm-minded man, of his sufferings under the operation of lithotomy, executed by the ablest of our surgeons. "When the words," he tells us, "*Now, Sir, it is all over*, struck his ear, the ejaculation, *Thank God!* did he utter, with a fervency of feeling and fulness of heart not to be conceived; that the most captivating vision to the sight, the most enchanting harmony to the ear, a combination of every thing calculated to delight, would fall short of the perfect blessedness of his situation at that instant of release from his tormentor." Such is the picture to be contrasted with the modern proceeding which, in its favourable circumstances, bloodless, and without pain, effects a complete and permanent relief from the most distressing of maladies to which our frame can be subjected.

I fear to prolong in tediousness this bare enumeration of some, and but a few, of the efforts of modern surgery, yet, in connexion with the labours of Mr. Hunter, I cannot avoid a notice of proceedings recently instituted for the removal of certain deformities of the limbs existing from birth, interfering with progression, and often so unsightly in appearance as to have been a source of distress even to the greatest of minds. The

* Medico-Chirurgical Transactions, vol. x.

division of the tendinous cords impeding the restoration of a distorted and contracted joint, seems to be but the re-introduction of an old operation; but the foundation of it was laid in the beautiful illustrations to be found in our museum of the re-union of a divided tendon, even the largest of the heel, and to the experiments upon which subject, it is known that Mr. Hunter was directed by his reflections on the union of the ruptured tendo Achilles in his own person, which, to his surprize, he observed to have taken place by the interposition of bone.

To do honour to surgery, to show the advances it is making, has been my object in citing some of the striking events in its modern history. The tillers of the field of science are more numerous than they were in ancient times, and this is one of the circumstances now concurring to its more rapid progress. But as in science, Honour can be rendered to intellectual labour alone, so I desire here to record my warm admiration of the labour bestowed by the medical sages of antiquity in acquiring the varied knowledge then considered to form the foundation of medicine. Their biographies, and the works they have left us, abundantly attest the intensity of their efforts. With advantage may we reflect on the extent and the variety of the studies successfully pursued by Boerhaave, so loudly celebrated, and so universally lamented through the whole learned world, in the emphatic language of

his biographer; and with equal admiration must we contemplate the intellectual labour of Morgagni, who occupied the whole of a long life to its eightieth year, in amassing for the benefit of posterity the vast treasures of knowledge contained in his great work, "De Sedibus et Causis Morborum," completing this work after blindness had seized him, with the help of the illustrious Scarpa, then but a youth, and who was occupied at night in reading to Morgagni, the Latin classics, as the means of refreshment, alike to the mind of the old man and the boy, from the exhaustion of the labours of the day. With the same feeling must we contemplate the original research, the profound erudition, and varied attainments of Haller, so finely eulogized by the Roman Historian as, "a Universal Genius uniting the fire of poetry with the sagacity and discernment of the philosopher." And a happy subject of reflection it is, that these intellectual men of the olden times were as great in goodness as in wisdom. We know the fulness of feeling that impelled Galen to record the first exposition of the contrivances in the human skeleton as a sacred argument to the praise and honour of the Creator. We know moreover, the occupation of the advanced age of Haller in preparing as a last pledge of parental affection, his admirable exposition of the truths of Christianity * wherein, with the

* Letters from Baron Haller to his Daughter on the Truths of the Christian Religion. Translated from the German. London, 1803.

outpourings of his heart, he exclaims, "Fifty years have almost elapsed since I was the disciple of the immortal Boerhaave; but his image is continually present to my mind. I have always before my eyes the venerable simplicity of that great man, who possessed, in an eminent degree, the talent of persuading. How many times hath he said, when speaking of the precepts of our Saviour—*that this divine teacher knew mankind better than Socrates.*"—In honour to the memory of the individual, as a reply moreover to the suspicion sometimes entertained, that the occupations of our profession tend to the weakening of some of the best feelings of our nature, I tell the tale which the venerable Morgagni has recorded of himself,* that having attended the fatal illness of a Nobleman, for whom he had a great personal regard, and whose body he was desirous should be examined, he says, "I sent a pupil of mine who was well practised in dissection, for I could not bear to be present myself." Truly indeed,

> "Great men have been among us; hands that penned
> And tongues that uttered wisdom, better none."†

With ourselves, activity of observation and experiment is the chief business of life. But there are events of recent occurrence which may induce us to think that in the works of the ancients are contained

* De Sedibus et Causis Morborum.

† Wordsworth.

the germs of discoveries yet to be made in medicine and its collateral sciences. Had the hint been caught and duly appreciated that was given by the sagacious Hippocrates, practical medicine would, centuries ago, have profited by the addition of the ear to the other senses in the investigation of disease; for, as Laennec has candidly avowed, it was from Hippocrates the first notion of the practice of auscultation was derived.* So with respect to one of the most interesting announcements recently made in anatomical science, the curious and beautiful arrangement of tubes and fibres in the bone and enamel of the teeth, it would appear to be but the re-discovery of facts which were recorded by Leeuwenhoeck more than a hundred and sixty years ago in the Transactions of our Royal Society.† And, with respect to some curious phenomena manifested through a portion of the nervous system, the spinal marrow, recently engaging the discussions of our physiologists, it would appear that the original, but unnoticed mention of these phenomena exists in

* Laennec—Diseases of the Chest—Introduction, page 4.

† Microscopical Observations of the Structure of Teeth and other Bones, made and communicated in a letter by Mr. Anthony Leeuwenhoeck. Philosophical Transactions, 1678, "We plainly saw that the whole tooth was made up of very small, straight, and transparent pipes." One point Leeuwenhoeck certainly did leave for discovery by the modern microscopic observer, namely, the six-sided figure of the fibres in the enamel of the teeth, so interesting as the contrivance for packing the largest number of fibres into the smallest space, and thus providing for the density of the enamel.

the writings of Francis Glisson, who was cotemporary with Leeuwenhoeck, and a distinguished man in his time, as he was President of the College of Physicians, and held for forty years the office of Professor of Physic in the University of Cambridge.* Even with respect to some of the "new lights of our time" in the practical department of surgery, it must be a matter of curious reflection, and should teach us humility, to find ourselves but reverting to the doctrines and to the practice of the ancients. Thus, at the present moment, certain proceedings in the management of fractures, new to us, and of great value, are in the course of introduction, and in the progress of an investigation to whom the merit of originality should here be accorded, a discovery is unfortunately made, that similar proceedings were in use, centuries ago, among the nations of the East.† But more than this may be gleaned from

* Tractatus de Ventriculo et Intestinis, 1677, cap. ix.—De pauculis Irritabilitatis differentiis. Exempla Irritationis per consensum inter fibras purè naturales frequenter quoque occurrunt. Fibræ enim nervos à communi origine petentes nonnunquam simul commoventur. Siquidem ramus nervi in fibras primò motas inserti, ejusque motus continuatur communi alterius aut plurium nervorum origini, indèque per eas reflectitur ad fibras secundò motas, in quibus, ad imitationem motûs primi, consimilem per consensum concitat.

† The plan of treating fractures, here alluded to, consists in applying, shortly after the occurrence of the injury, an apparatus which, by its firmness and close adaptation to the limb, will allow its movements in any direction without disturbing the ends of the broken bone. It would appear that ages ago, an apparatus for this purpose was employed, consisting chiefly of mastic. At the present moment,

the works of antiquity which deserves to be recorded in connection with the modern improvements of our art. It is not yet so clear as might be supposed, whether to the present or to a past age, posterity will award the honour of the original idea and practice of comminuting the stone in the bladder. Hippocrates speaks of a certain Ammonius in Alexandria, who, having made a small hole in the bladder, then proceeded to cut the stone into pieces by an instrument resembling, it is stated, the chisel of the statuary, whence he received the appellation of "lithotomus," the stone cutter.* Here was combined the operation by incision with the proceeding of the modern lithotritist. But still more closely has Sir Philip Crampton, the distinguished Surgeon-General of Ireland, traced the connection of lithotrity with the practice of a past age, for he has found in a record lodged in the State Paper Office, and dated 270 years ago, the observation that a stone was voided by Sir Henry Sidney, the Lord Deputy for the time being, which had been broken by the surgeon into many pieces; the discovery of this curious historical fact having been made by a gentleman upon whom the Surgeon-General had performed

experiment and observation are active in ascertaining the best material for the construction of this immoveable apparatus.

* Rapport fait à l'Academie des Sciences par Chaussier et Percy, 1824. Parallèle des divers moyens de traiter les calculeux par le Docteur Civiale. A Cornelius Celsus. Book VII.

lithotrity, and who in consequence became interested in searching out the records of the art.*

A striking feature in modern medical science is the zeal and the discretion with which the various collateral branches of knowledge are brought to its aid. The happy union of the sciences, their mutual fecundation as Cuvier expressed it, is here signally displayed, perfectly realising the same idea which Cicero has so beautifully and philosophically expressed, Omnes artes, quæ ad humanitatem pertinent, habent quoddam commune vinculum, et quasi cognatione quâdam inter se continentur.† We have chemistry, human and comparative anatomy and physiology, zoology and geology, all mutually aiding, yet each confined within its own sphere. A century ago, out of a few facts observed by the great chemist of the day, upon a living gymnotus, or silurus electricus, would have been almost certainly constructed a chemical theory of life. But

* An outline of the History of Medicine. By Sir Philip Crampton, F. R. S. Read before the Royal College of Surgeons in Ireland, November, 1838. Dublin Journal of Medical Science, January, 1839.

The honour of the re-introduction of lithotrity must be accorded to the French Surgeons. In the year 1818, M. Civiale contrived an instrument that would perforate the stone, and, besides, scoop out its interior, in order that from the knowledge thus obtained of its composition, an appropriate solvent might be directed to it. When, by successive perforations and scoopings, the stone was reduced to a mere shell, then did the idea occur of crushing the shell into fragments and powder.

† Oratio pro Archia, Poeta.

we have now, "no idols successively worshipped with the changing spirit of the times:" where in the same individual, the chemist and the physiologist, are conspicuously united, as they are in the person of the distinguished author of one of our Bridgewater Treatises,* the lover of science must contemplate, with pleasure, his philosophic reasonings on the animal processes in health and disease.

The ancient Egyptians, it is recorded, ordained by law, a solemn canvass of the actions and characters of their dead before competent judges, to regulate the amount of respect due to their memory. Guided by the same feeling, the Royal Academy of Medicine in Paris have decreed, that no permanent record of a deceased associate be made until five years have elapsed, so to guard against the influence of Feeling, and to wait the unerring operation of Time in the adjustment of every thing to its place. Nevertheless, in a confident spirit of truth and impartiality, I venture to speak to the honoured memory of an individual, once a public character, and but recently departed from amongst us.—History, it is well said, in holding forth the examples of past ages, furnishes our most impressive lessons of instruction. Welcome intelli-

* Dr. Prout.

gence it must be to those who desire the welfare of our profession, to know that the eminence of a departed associate was deserved, that it was attained solely through the legitimate means of science and skill, probity, and the most active exercise of benevolence.—"Who," says Hippocrates, "is the physician honouring his profession, the man who merits public esteem by his knowledge and experience, strict probity and spotless life—the man who in the ministrations of his art, recognises no distinction of persons,—who, with the same interest and attention, listens to the complaints of the poor as of the rich—who besides, imparts cheerfulness and confidence to the depressed spirit—who occupies his time in the investigation of disease for the discovery of the means of its cure, and is never disturbed by the occurrence of unforeseen events, who is moreover, ever ready to aid his brethren in their difficulties;—in conclusion, the man who having obtained, by his skill and knowledge, the mastery over disease, feels happy, but modest in his success, and who, with a less degree of success, can at least comfort himself in the reflection that he has alleviated sufferings which he could not remove.* The few there may be of my audience who were, in any way associated with Mr. Thomas Blizard in the ministrations of his knowledge and skill as one of the surgeons of the London Hospital, will sustain me, I am confident

* Tracts in the works of Hippocrates.

in the declaration now most sincerely made, that in him were combined the varied excellencies of the medical character, so expressively portrayed by Hippocrates. And be it recorded, as a just tribute to the excellence of his heart, that Mr. Blizard at the age of forty-six, when in the fulness of professional reputation, with every power of mind and body in its utmost activity, did, in obedience to a high moral duty, without hesitation or murmur, retreat into private life, there to be free, for the devotion of the remainder of his days to the relief of domestic sorrow.

Justice to living merit requires of me, on this occasion, to record the public spirit and liberality of an English anatomist, whose investigations of the nervous system, conducted in the true feeling of science, have contributed so largely to our knowledge of this most intricate part of the animal frame. Mr. Swan, with the zeal and patience of a Meckel, or a Scarpa, having occupied a large portion of his life in unravelling the nervous systems of man and animals, having recorded these labours with a disregard of expense in a series of engravings, executed by our most accomplished artists, animated thus by the feeling which induced Vesalius to solicit the aid of a Titian; now completes this course of liberal conduct, by depositing in the museum of this college, for public use, the demonstrations by his own hands, the materials upon which they have so long, and successfully laboured.

To have hesitated, Gentlemen, in appearing before you on this occasion, would have been to do no honour to the memory of my earliest instructor in surgery, for I was the pupil of Mr. Abernethy,—one of those who listened with delight through a long series of years, to his animated expositions of the doctrines of John Hunter. Rightly has it been observed, that many are able to reach the summit of a science, who are not capable of leading others to it; that there is often more difficulty in descending to teach, than in persisting to rise. How effectually did Mr. Abernethy master this difficulty was warmly acknowledged, on the various occasions of his appearance in the theatre of this college. Gratitude, and respect to his memory are justly due for the excellence of his instructions, enlivening as he did, the driest details of his subject, communicating to others the enthusiasm for surgery which he so strongly felt. An old pupil presenting his first publication, intimated that with whatever zeal he had studied surgery, was a consequence of the enthusiasm derived from the attendance on his lectures. Mr. Abernethy, with his usual readiness of reply, simply reminded him, "that it required only a spark to excite the blaze of the largest fire." Through his advocacy of the doctrines of Hunter, Mr. Abernethy reached the highest excellence as a teacher, inculcating the study of surgery as a noble occupation, and the practice of it with honourable and benevolent feelings.

We live in an age when literary and scientific eminence are justly regarded of importance, as they conduce to the glory of a nation; and our station in public opinion depends mainly on the connection which surgery has formed with general science. All the arrangements of our time tend to the equalization of surgery. To no future historian instituting a comparative view of the surgery of the present period in the various countries of the civilized world, will it be permitted to state, that it was flourishing in one country and languishing in another. His representation will be, that in the nineteenth century by the spirit of activity, every where prevailing; surgery for the first time in its history, became uniform in its character and proceedings, exercised in all civilized countries with the like intelligence, every where with the same good results.

A better history of Nature, says Lord Bacon, is wanting for Philosophy. So large a contribution to this history has Mr. Hunter furnished, that on this ground alone, would his name be consigned to posterity as a benefactor to mankind. We, moreover, owe to Mr. Hunter the formation of the principles of surgery. If such be the right estimate of his merits, posterity has done that which justice warrants and reason guides, in awarding to his memory the honour of this commemoration, associating thereby the name of Hunter with the successive advances of surgery to be recorded,

we will hope, in the orations of future years; and it is a well measured estimate of the prospective influence of Hunter's labours to anticipate, that through the course of time, his reputation will in every age expand, as the fame of our Shakspeare, represented by the poet of Germany, augmenting, from age to age, like the Avalanche from the mountain, increasing in bulk as it rolls.

We boast of the Science of Hunter, "yet that which is above all this"—his Perfect Integrity of Mind,

"incorrupta fide vir, ob id, Fama celebratior."*

* Tacitus.



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